

WHAT IS CLAIMED IS:

1. A laser output device comprising:  
an optical fiber;  
a mirror configured to reflect light of a specific  
5 wavelength transmitting in the optical fiber to return  
the light to the optical fiber; and  
a support portion configured to support an end  
surface of the optical fiber and the mirror in a state  
in which they are pressed against each other.
- 10 2. A laser output device according to claim 1,  
wherein the support portion fixes the optical fiber in  
such a way that tension which permits the end surface  
of the optical fiber to be pressed against the mirror  
is generated in the optical fiber itself in a state in  
15 which the end surface of the optical fiber is in  
contact with the mirror.
- 20 3. A laser output device according to claim 1,  
wherein a laser active material is added to the optical  
fiber, and the mirror is a resonant mirror of an  
upconversion fiber laser in which the optical fiber to  
which the laser active material is added is excited by  
employing laser light.
- 25 4. A laser output device according to claim 1,  
wherein the optical fiber is fixed in a ferrule, and an  
end surface of the ferrule, together with the optical  
fiber, is polished.
5. A laser output device according to claim 1,

wherein the optical fiber is fixed in a ferule, and an end surface of the ferule, together with the optical fiber, is polished so as to have a predetermined curvature.

5       6. A laser output device according to claim 4 or 5, wherein the support portion presses the end surface of the optical fiber against the mirror by a bias force of a spring which is applied to the ferule.

10      7. A laser output device according to claim 1, wherein the support portion presses the mirror against the end surface of the optical fiber by a bias force of a spring which is applied to the mirror.

15      8. A laser output device according to claim 1, further comprising a modulation portion configured to perform spatial modulation for the light excited by the optical fiber based on a video signal.

9. A laser output method comprising:  
supporting an end surface of an optical fiber and a mirror which reflects light of a specific wavelength  
20 transmitting in the optical fiber to return the light to the optical fiber in a state in which the end surface of the optical fiber and the mirror are pressed against each other.

10. A laser output method according to claim 9, further comprising:

25      performing spatial modulation for the light excited by the optical fiber based on a video signal.

11. A video display apparatus comprising:

a fiber laser device configured to support an end surface of an optical fiber and a mirror which reflects light of a specific wavelength transmitting in the optical fiber to return the light to the optical fiber in a state in which the end surface of the optical fiber and the mirror are pressed against each other;

5 a modulation portion configured to perform spatial modulation for the light to be outputted from the fiber laser device based on a video signal; and

10 a display portion configured to project and display light output obtained from the modulation section on a screen.

12. A video display apparatus according to

15 claim 11, wherein the fiber laser devices and the modulation portions are disposed corresponding to R, G, B lights, respectively, and the display portion synthesizes light outputs from the respective modulation sections corresponding to the R, G, B lights

20 to project synthesized light on the screen.

13. A video display apparatus according to

claim 11, wherein the fiber laser devices are disposed corresponding to R, G, B lights, respectively, and the modulation portion performs spatial modulation for white light obtained by collecting output lights of the respective optical fibers corresponding to the R, G, B lights.